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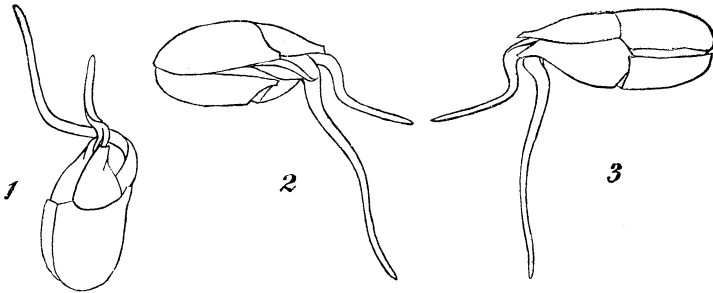
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melanocarpa, Torr. and Gray, New Rochelle; *Amelanchier Canadensis*, Torr. and Gray, var. *oblongifolia*, Gray, Huckleberry Island; *Carum Carui*, L., spontaneous at New Rochelle; *Valeriana officinalis*, L., Pelham Neck; *Plantago decipiens*, Barneoud, New Rochelle; *Veronica Buxbaumii*, Terore, New Rochelle; *Calystegia sepium*, R. Br., var. *repens*, Gray, Pea Island; *Asclepias incarnata*, L., var. *pulchra*, Pers., Pelham; *Potamogeton pusillus*, L., Portchester; *Spartina cynosuroides*, Willd., Hunter's Island; *Tripsacum dactyloides*, L., Hunter's Island.

EDWARD H. DAY.

Plurality of Embryos in *Quercus alba*.

On Staten Island, in March, 1886, we found the acorns of the white oak, *Quercus alba*, which had sprouted, with radicles four or five inches in length. In pulling up a number of them we found one which differed from all the rest in being what I have



called "double," having two radicles and four cotyledons. It resembled the others in the size and shape of the cotyledons, but these were divided one-third of the distance from the main radicle into two smaller irregular lobes, which gave rise in their turn to a smaller radicle. The above diagrams will illustrate the structure.

E. G. B.

Index to Recent American Botanical Literature.

Æcidium Phrymæ, n. s. Byron D. Halsted. (Journ. Mycol., ii., p. 52.) This *Æcidium* was found on *Phryma Leptostachya*, at Spirit Lake, Iowa, in July, 1885.

Botanical Contributions, 1885. Asa Gray. (Proc. Amer. Acad. Arts and Sciences, xxi., pp. 363-413.)

I.—A Revision of the North American Ranunculi.—Since the

publication of Torrey and Gray's Flora of North America no systematic arrangement of our Ranunculi has been attempted. A number of our species are now referred to older names than those generally cited, and some additional ones are characterized. *R. aquatilis*, var. *divaricatus*, Gray, of the Manual (var. *stagnatilis*, DC.) is regarded as a good species under the name *R. circinatus*, Sibth; *R. hederaceus*, L., occurs in fresh-water marshes at Norfolk, Va., probably introduced from Europe; *R. triternatus*, Gray, is a new species from Klickitat County, Oregon, distributed by Howell, as *R. Hookeri*; *R. Arizonicus*, Lemmon, from the Southwest, is recognized, and two varieties of it are noted; *R. Suksdorfii*, from Mt. Adams, Washington, is here first described; *R. occidentalis*, Nutt., includes *R. Nelsoni*, Gray, and five varieties are made of it; *R. acriformis*, Gray, from the Rocky Mountains, is the *R. acris* of Hooker. *R. hispidus*, Michx., a northern and western species, is distinguished from *R. Pennsylvanicus*, L. f; *R. septentrionalis*, Poir., includes most of our forms which have gone as *R. repens*, L., the latter species being mainly confined to low grounds near the coast, where it has been introduced, but is also indigenous in some localities; *R. fascicularis*, Muhl., is regarded as distinct.

II.—Sertum Chihuahuense :

The second section of Dr. Gray's Contributions describes new and noteworthy species of Gamopetalæ collected in various parts of Chihuahua by Mr. C. G. Pringle and Dr. Edward Palmer during the past year. One genus and a great many species new to science are here described.

In the third section the genera *Sidalcea*, *Lyonothamnus* and *Dimeresia* are discussed, and several new species of other genera are described.

Botanic Gardens. D. P. Penhallow. (Tenth Annual Report of the Montreal Horticultural Society, 1886.)

Cypripediums in America.—Hardy. Wm. H. Chadwick. (Gard. Chron., xxv., pp. 564, 565.)

Eatonia—Notes on. George Vasey. (Botan. Gazette, xi., pp. 116, 117.)

Dr. Vasey characterizes two new species of this genus,

E. Dudleyi, which ranges from Michigan to Southern New York and southward to North Carolina, and *E. filiformis*, (*E. Pennsylvanica*, var. *filiformis*), Chapm., found from Florida to Texas.

Edward Tuckerman, LL.D., Professor of Botany in Amherst College, and the only American authority on Lichenology, died at his residence on the 15th of March. From biographical notices which have appeared in the Amherst Record, written by his colleague, Professor Tyler, from an account of his botanical labors, written by Mr. Henry Willey for the Botanical Gazette, and published in the April issue of that periodical, and from Dr. Gray's sketch of this distinguished botanist in the American Journal of Science for April, we condense the following brief account: He was born in Boston, December 17, 1817; was graduated from Union College in 1837, and from the Harvard Law School in 1838. Subsequently he received the degree of M.A. from both Union and Harvard Colleges, and that of LL.D. from Amherst. His duties at Amherst began in 1854. He was first lecturer on history, then professor of Oriental history, and in 1858 was appointed professor of botany, which position he held till his death. While Professor Tuckerman's botanical work has mainly been in the field of Lichenology, and in this department he was probably as high authority as any other living student, his name is also associated with other plants. In 1843 he published a pamphlet entitled "Enumeratio Methodica Caricum Quarundum," in which 253 species of *Carex* were listed; his "Observations on Some American Species of *Potamogeton*," in the American Journal of Science of 1849, made known six new species of that genus. His last botanical contribution, entitled "Two Lichens of the Pacific Coast," was published in this BULLETIN for March, 1884.

Flora of Indiana—Origin of the. Harvey Thompson. (Botan. Gazette, xi., pp. 88-90.)

Fossil Dicotyledonous Leaves—On the Determination of. Lester F. Ward. (Amer. Jour. Science, xxxi., pp. 370-375.)

Fungi—Ellis and Everhart's North American.

The sixteenth and seventeenth centuries of this valuable distribution have recently been issued,

Fungous Diseases of Small Fruits. A. B. Seymour. (From Vol. xiv., Minnesota Horticultural Report; 8 pages.)

Germination of Pond Lily Seeds. George F. Waters. (Science, vii, 395, 396.)

Mr. Waters states that some seeds of *Nymphaea odorata* germinated after a submergence in water of nearly two years.

Grasses of Coulter's Manual. F. Lamson Scribner. (Botan. Gazette, xi., pp. 95-97.)

Mr. Scribner reviews and criticises the treatment of the order *Gramineæ* in Professor Coulter's Manual of the Botany of the Rocky Mountain Region.

Hypericaceæ—Revision of North American. John M. Coulter. (Botan. Gazette, xi., pp. 78-88, and 106-112.)

The three genera, *Ascyrum*, *Hypericum* and *Elodea*, are retained, in which the author differs from Bentham and Hooker, who in their Genera Plantarum refer the two species of the last to *Hypericum*. *Ascyrum Crux-Andree*, L., var. *angustifolium*, Nutt., is referred to *A. hypericoides*, L.; *A. microsepalum*, Torr. and Gray, becomes *Hypericum microsepalum*, Gray; *H. pyramidatum*, Ait., is *H. Ascyron*, L., occurring also in Europe and Northern Asia; *H. angulosum*, Michx., is *H. virgatum*, Lam., and *H. acutifolium*, Ell., is reduced to a variety of this species; *H. corymbosum*, Muhl., is *H. maculatum*, Walter; *H. Scouleri*, Hook., becomes a variety of *H. formosum*, HBK.; *H. Sarothra*, Michx., is *H. nudicaule*, Walter. Under *Elodea* of Jussieu (not *Elodes*, Adans.), *E. Virginica*, Nutt., becomes *E. campanulata*, Pursh.

Lilium Canadense. (Garden, xxix., pp. 426, 427; plate 543.) A description of its mode of growth and propagation with comparisons with other lilies accompanies the very pretty plate. We are told that it is still imported into England in considerable quantities.

Mosses. The American Monthly Microscopical Journal, vii., pp. 86-88., reprints from Science Gossip, a popular article which contains nothing more than can be found in any text-book. It is illustrated by crude figures of *Funaria hygrometrica*, L.

Plant Dissection. J. C. Arthur, C. R. Barnes and J. M. Coulter.
(8vo., pp. 256, Henry Holt & Co., New York, 1886.)

A useful guide for the study of a few common plants. The authors have modelled the work after Huxley and Martin's Elementary Biology, omitting however, all reference to physiology, and prefixing an introduction giving directions for the use of instruments and reagents; methods of cutting, staining, mounting and drawing objects under the microscope. The last point is illustrated by two plates. The work is outlined for the following plants: *Protococcus viridis*, *Oscillaria tenuis*, *Spirogyra quinina*, *Cystopus candidus*, *Microsphaera Friesii*, *Marchantia polymorpha*, *Atrichum undulatum*, *Adiantum pedatum*, *Pinus sylvestris*, *Avena sativa*, *Trillium recurvatum*, and *Capsella Bursa-pastoris*. Frequent references as foot-notes and a glossary, complete a very convenient little guide for the student both in the laboratory and at home. It embraces a wider field than Bower and Vine's Practical Botany, but goes less into detail.

Problems relating to the Giant Trees.—A new study of some. C.

B. Bradley. (Lippincott's Magazine, 1886, pp. 305-316.)

An interesting discussion of the cause of the restricted occurrence of *Sequoia gigantea*, in which the writer concludes that the seeds germinate only when they reach the actual earth, being unable to grow in the humus layer which deeply over-spreads the ground beneath the trees. The ease with which gardeners succeed in raising Sequoias from seed in ordinary soil is cited as an argument in favor of this hypothesis. Mention is made of the great abundance of seed produced. Each cone is said to contain from 175 to 200 sound seeds, so that the total annual product of even a single tree must be enormous. Were Mr. Bradley's idea borne out by other observations it would seem that the extinction of these noble trees might easily be prevented and their distribution as easily widely increased.

Prodromus Floræ Adventiciæ Boreali-Americanae. Th. A.

Bruhin. (Verhandel. der. K. K. zool. botan. Gesellsch. in Wien (1885), pp. 387-450; also reprinted.)

A preliminary list of adventive, naturalized and cultivated plants of North America, compiled mainly from the writings of Pickering, Wood, Gray and Chapman, with observations of the au-

thor in Ohio, Wisconsin, Nebraska, Iowa and Dakota. Among cultivated species only those are admitted which are grown on account of useful qualities or are of wide distribution. It is remarked that the species introduced prior to the occupation of North America by Europeans are mainly of South American or West Indian origin. Those of more recent advent are mostly from Europe and Asia, rarely from Africa or Australia. In all 623 species, belonging to 353 genera are included. The *Gramineæ* are most numerous, 80 species being noted; there are 60 *Compositæ*, 48 *Leguminosæ*, and 39 *Labiataæ*, 34 *Rosaceæ* and 30 *Cruciferaæ*. We have no exotic *Ericaceæ*, *Orchideæ* nor *Pteridophyta*. Europe has furnished 420 species, Asia 112, South and Central America and the West Indies 64, Africa 12, and Australia 1. 383 species are claimed to be spontaneous and the the remainder, 240, cultivated. Herr Bruhin's list, while doubtless not quite complete, is of very great interest, and a valuable contribution to the literature of plant distribution.

Scribneria. E. Hackel. (Botan. Gazette, xi., pp. 105, 106; one plate.)

A new genus of *Gramineæ* dedicated to Mr. F. Lamson Scribner of Washington, consisting of a single species, *S. Bolanderi*, Hackel, of California and Oregon, originally described by Dr. Thurber as *Lepturus Bolanderi*.

Thalictrum. Wm. Trelease. (Botan. Gazette, xi., pp. 92-93.)

Professor Trelease presents descriptions of *T. purpurascens*, L., and *T. polygamum*, Muhl., (*T. Cornuti* of Gray's Manual), giving the characters whereby he has been able to distinguish the two. He will be grateful for any specimens which will throw additional light on either of these species.

Western South America.—*Notes on the Botany of*. John Ball. (Journ. Linn. Soc., xxii., pp. 137-168.)

Willoughby Lake, Vermont.—*A Trip to*. Walter Deane. (Botan. Gazette, xi., pp. 112-116.)

Botanical Notes.

Tiarella cordifolia has more than once been sent to us with somewhat attenuated and dentate or even lacinate petals, leading one to suspect a possible crossing with *Mitella diphylla*.